

ABSTRACT

A gas generator or rocket engine includes: a first storage tank configured to contain a high-pressure liquid propellant; a nozzle connected to the first storage tank; a heat source connected between the first storage tank and the nozzle and configured to add heat to the high-pressure liquid propellant at a heat transfer rate to substantially gasify the high-pressure liquid propellant, where the nozzle is configured to expel and expand the substantially gasified high-pressure liquid propellant, and where the gas generator is configured so that an expanded temperature of the substantially gasified high-pressure liquid propellant after being expanded by the nozzle is in the range -50°C to 100°C, preferably 0°C to 50°C; and a controller connected to the heat source and configured to adjust the heat transfer rate.